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AMSAT NEWS SERVICE
ANS-213

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor(a)amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

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ANS-213 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS
From: Radio Amateur Satellite Corporation
712 H Street NE, Suite 1653
Washington, DC 20002

DATE 2021 Aug 01

AMSAT Announces Strategic Satellite Objectives and Organization Goals

The AMSAT Board of Directors has adopted a set of strategic satellite objectives and organization goals. The document, adopted in early June and published in the the May/June 2021 edition of The AMSAT Journal. The plan establishes a long-term, multi-faceted vision that includes big dreams, a continued presence in space, and a development path for the scientists, engineers, and operators of tomorrow.

AMSAT President, Robert Bankston, KE4AL, commented, "Anything this ambitious will undoubtedly challenge our limited human and fiscal resources. We must parallel our new plan with new ways to manage and fund projects. AMSAT has a pool of very talented volunteers, but there will be

times when we require skills beyond our current capabilities. Recruitment, partnerships, collaborative efforts, and even outsourcing are options that will help us fill in the gaps."

Highly Elliptical Orbit (HEO)

1. Upward to HEO. Develop and deploy a series of spacecraft capable of providing wide-area and continuous coverage from highly elliptical and geostationary transfer orbits. Greater Orbit, Larger Footprint

2. GOLF. Develop and deploy a series of increasingly capable spacecraft through a program to learn skills and systems for which we do not yet have the necessary low-risk experience, including active attitude control, deployable/steerable solar panels, radiation tolerance for commercial off the shelf (COTS) components in higher orbits and propulsion.

Amateur Radio on the International Space Station

3. AREx-A. Partner with ARISS and ARISS-USA to advance Amateur Radio's presence aboard NASA's International Space Station, Deep Space Gateway and Artemis missions and provide opportunities to engage with astronauts in lunar and deep space operations.

Low Earth Orbit (LEO)

4. LEO. Support a stream of LEO satellites developed in cooperation with the educational community and other Amateur Radio satellite groups.
4.1 FM Operations. Develop, deploy and support a series of 1U spacecraft to support continued FM amateur satellite operations in low Earth orbit.
4.2 Partnerships. Develop a plug-and-play communications solution for educational and other Amateur Radio CubeSat programs, providing a VHF/UHF telemetry beacon, command receiver, and linear transponder or FM repeater communications module.

AMSAT STEM Initiatives

5. AMSAT Education. Support science, technology, engineering and mathematics (STEM) initiatives and training programs for satellite and ground system designers and operators.
5.1 CubeSat Simulator. Continue development of AMSAT’s CubeSat Simulator Program.
5.2 High Altitude Ballooning. Develop program to support and sponsor the use of amateur radio in high-altitude balloon (HAB) launches.
5.3 Youth Initiative. Develop an educational out reach program that encourages youth to pursue STEM interests in space science and communication technology.

More details of the strategic satellite objectives and organization goals may be found at https://www.amsat.org/apogeeview/

[ANS thanks The AMSAT Journal for the above information]

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Jérôme LeCuyer, F4DXV, and John Langille, VE1CWJ, have spent the last couple of months using their favorable geographic locations to set a number of satellite distance records.

On May 5, 2021 at 13:04 UTC, F4DXV and VE1CWJ set the initial record on JO-97 of 4,889 km. F4DXV was operating in JN04it22nt and VE1CWJ was operating in FN85ii89sk.

On May 15, 2021 at 08:30 UTC, F4DXV and VE1CWJ broke the 5,000 km mark for the first time on a satellite from the September 2015 Long March 6 launch when they covered a distance of 5,005 km between FN85ii22lf and JN15jo26rq on XW-2F. F4DXV was operating from the summit of a mountain and the QSO was completed with an elevation of -1.5 degrees.

On June 26, 2021 at 11:03 UTC, the pair set a record of 4,907 km on FO-99 while F4DXV was operating in JN04jr35pe and VE1CWJ was operating in FN85fo5ik.

One month later, on July 26, 2021, F4DXV returned to the summit of the mountain in JN15jo26rq and the pair set a number of additional records within one half-hour, again breaking the 5,000 km threshold for the first time on several additional satellites from the September 2015 Long March 6 launch. They set the record at 5,008 km on LilacSat-2 at 08:08 UTC, XW-2D at 08:15 UTC, XW-2B at 08:21 UTC, and XW-2C at 08:33 UTC.

A list of known satellite distance records is located at https://www.amsat.org/satellite-distance-records/. Please email n8hm at amsat.org if you wish to claim a new record, longer distance QSO not yet documented, or records for any other satellite/transponder not yet listed. Please note that if a satellite carries multiple transponders or supports multiple frequency bands, records on each transponder/band may be claimed, such as Mode A and B on AO-7 or Mode U/S, L/S, U/K, etc, on AO-40. This includes the ISS and records may be claimed for the packet digipeater and crossband repeater, but does not include different operating modes on the same transponder (such as CW or SSB on AO-7 Mode B).

[ANS thanks Paul Stoetzer, N8HM, AMSAT Executive Vice President, for the above information]

Call For Papers For The 39Th AMSAT Space Symposium

This is a call for papers for the 39th AMSAT Space Symposium to be held on the weekend of October 29-31, 2021 at the Crowne Plaza AiRE hotel in Bloomington, Minnesota.

Proposals for symposium presentations are invited on any topic of interest to the amateur satellite community. We request a tentative title of your presentation as soon as possible, with final copy submitted by October 18 for inclusion in the symposium proceedings. Abstracts and papers should be sent to Dan Schultz, N8FGV at n8fgv(a)amsat.org

[ANS thanks Dan Schultz N8FGV, Symposium Program Chair, for the above information]

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AM1SAT International Award

>From September 13-19 AM1SAT will be active on the amateur radio satellites from a number of locations in Spain, diplomas will be available for contacting the stations

A translation of the URE post reads:

AMSAT-EA will celebrate in September, coinciding with the IberRadio Fair organized by URE in Ávila and which is the largest meeting point for radio amateurs in Spain and Portugal, the third edition of its International Competition and AM1SAT Award.

To do this, AMSAT-EA operators will be in the air on all available satellites with the callsign AM1SAT between the 13th and 19th of that month, activating a minimum of 14 different locations.

As part of this activity and to encourage participation, the SILVER and GOLD classifications will be available, as well as a trophy for the one who achieves the greatest number of grids and for the one who manages to work the greatest number of different satellites.

In the last edition of the contest held in 2019, 727 QSOs were made, awarding 10 gold and 28 silver diplomas. The trophies for the best grid and satellite 'hunter' were awarded to F4DXV and EA3CAZ.

The rules in English for this year's contest can be found at https://www.amsat-ea.org/app/download/12828633/AMSAT+EA+-+AM1SAT+2021+-+English.pdf

Orignal source, Union La Unión De Radioaficionados Españoles: https://tinyurl.com/IARU-Spain

[ANS thanks Southgate ARC for the above information]

Russian Lab Module Tilts Space Station With Errant Thruster Firings

A heavyweight Russian laboratory module that experienced a variety of problems after launch last week docked at the International Space Station Thursday, but in a moment of unexpected drama, inadvertent thruster firings briefly knocked the sprawling complex out of its normal orientation.

Space station program manager Joel Montalbano said the station was maintaining its orientation, or “attitude,” using massive NASA-supplied gyroscopes when the thruster firings suddenly began at 12:34 p.m. EDT, about three hours after the 44,000-pound Nauka multi-purpose laboratory glided in for docking.

The gyros were unable to counteract the unwanted push from Nauka’s jets and the space station, stretching the length of a football field with a mass of more than 930,000 pounds, began tilting away from its normal orientation.

Attitude control was quickly handed off to more effective rocket motors in the Russian Zvezda module, where Nauka was attached. A few minutes later, thrusters in a Progress cargo ship docked on the other side of Zvezda kicked in with additional muscle.

The space station ended up tilted up about 45 degrees from its earlier orientation, moving at one point at roughly half a degree per second. But

in a little more than an hour, the station was back in its normal orientation, apparently none the worse for wear.

“We haven’t noticed any damage to the ISS,” Montalbano said in an afternoon teleconference. “One of the things we do after a dynamic event like this is go ahead and sit down with our structural loads team and review all the data, go pull all the telemetry and do an assessment. And so that’ll be the next step.”

A “spacecraft emergency” was declared at the outset, but that was standard procedure in such cases, giving the lab complex priority over other spacecraft using NASA’s satellite communications network. Montalbano said the station’s seven crew members were never in any danger.

“There was no immediate danger at any time to the crew,” he said. “Obviously, when you have a loss of attitude control, that’s something you want to address right away. But the crew was never in any, like, immediate emergency or anything like that.”

It’s not yet known what might have caused the Nauka module’s thrusters to suddenly begin firing as cosmonauts Oleg Novitskiy and Pyotr Dubrov were in the process of “integrating” the new spacecraft with the station’s computer systems.

Up to 11 spacewalks will be needed to outfit the laboratory and to make multiple power and data connections with the space station. The first two excursions are planned for September. Amateurs should note that the ISS amateur radio operations, ARISS, are shut down whenever there are docking operations or EVAs (spacewalks) taking place.

[ANS thanks SpaceFlightNow for the above information]

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Just 18 months after being licensed, Faith Hannah was invited to join the 2016 Dave Kalter Memorial Youth DX team operating PJ6 from the Dutch island of Saba.

“And that’s when I realized especially that DXing is amazing because I absolutely love those huge pileups and getting to talk to all of those different people,” she explained.

Among her PJ6 achievements was a satellite contact that broke the SO-50 distance world record. She wrote an article about the event which was published in the March/April 2017 issue of The AMSAT Journal.

In August 2018, Faith Hannah took part in the week-long “Youngsters on the Air” program in Johannesburg, South Africa where she participated in kit-building and antenna building projects, satellite operations and a high-altitude balloon launch.

She wrote an article about her experiences in South Africa that was published in CQ magazine.

On the way to South Africa, Faith Hannah and her father, James, WX4TV, had a 22-hour layover in Dubai, the United Arab Emirates. They were invited by the Emirates Amateur Radio Society to visit and operate A62A and A60YOZ.

In December 2018, Faith Hannah and her younger sister, Hope, ND2L, and her father organized a 36-hour mini-DXpedition to the Dry Tortugas in the Gulf of Mexico, off the southwest coast of Florida, where they activated N4T.

The girls logged 1,970 HF contacts and 100 satellite contacts.

Faith Hannah’s account of the N4T operation was published by CQ magazine, and she and Hope shared the April 2019 cover.

These and other ham radio experiences energized her desire to actively participate in contesting with her family and she has been a regular participant in ARRL Field Day, ARRL International DX contests, CQ WW SSB, and several state QSO parties.

She has participated in several special event operations as well, including National Parks on the Air (NPOTA) activations, the first SpaceX Falcon Heavy launch, the Ponce Inlet Lighthouse in Florida, a 13 Colonies station (K2G) in Georgia, and Jamboree on the Air and Boy Scout Radio merit badge weekends.

She has been active in several clubs in Virginia and Florida over her brief time as an amateur radio operator, finding mentors and friends in each of them. She has served as a net control operator for Volusia, Florida ARES (Amateur Radio Emergency Service) during Hurricanes Matthew, Irma and Dorian.

Faith Hannah completed high school through home schooling. But before doing so, she enrolled in Daytona State College where she earned an Associate of Arts degree at the age of 15. Presently, she is enrolled in Stetson University in Deland, Florida, where she is recognized as a member of the junior class. She maintains a 4.0 GPA as she works toward earning two different degrees – a Bachelor of Science in molecular and cellular biology and a Bachelor of Business Administration. Faith Hannah said she is exploring two career tracks – medicine or the law, or possibly both.

In 2020, she earned a $25,000 scholarship from the Foundation for Amateur Radio. And in 2021, a $16,000 scholarship in the “Voice of Democracy” essay contest sponsored by the Veterans of Foreign Wars – finishing first in Florida and second in the national competition.

As for amateur radio now and in the future, Faith Hannah says there's always time for that.

"I know this sounds weird but it doesn't really take all of my time to do my school, to have fun and to do ham radio," she explained. "It all just fits in perfectly because a lot of times if I'm getting on the radio and it's not a contest, I'll just do it in the evening when gray line is there because that's usually when I'm free and it's a great time to make contacts.

"If it's a weekend, we might take a radio and go out to a park or something and get on the air. And once it starts dying down, we'll just hang around the park for a couple of hours."

The YHOTY award is traditionally presented during the Huntsville Hamfest in August at the Von Braun Center in Huntsville Alabama. However, because of the spike in the Delta variant of Covid-19, Amateur Radio Newsline will not stage a public presentation at the hamfest this year. Faith Hannah will receive a certificate of recognition and other gifts during an online presentation.

The Young Ham of the Year Award was inaugurated by William Pasternak, WA6ITF, in 1986. Upon his passing in 2015, Bill's name was added to the award as a memorial to his commitment to recognizing the accomplishments of young people to the Amateur Radio Service.

Amateur Radio Newsline, CQ magazine, and Yaesu USA are primary sponsors of the award, along with Heil Sound Ltd. and Radiowavz Antenna Company.

[ANS thanks Amateur Radio Newsline for the above information]

FO-29 & FO-99 Operation Schedules For August 2021

Fuji-OSCAR 29 is switched on for selected weekend orbits over Japan and remains available for use until the low voltage protection circuit turns the satellite off once again during eclipse.

FO-29 transponder ON times for Aug. 2021 (UTC)
 1st 11:48-
 7th 01:14- 11:33- 13:16-
 8th 00:19- 10:35- 12:22-
14th 00:04- 10:20- 12:07- 23:09-
15th 11:12- 12:56-
17th 00:48- 02:35- 11:06- 12:52-
21st 00:38- 02:25- 10:56- 23:45-
22nd 09:59- 11:45-
27th 23:30-
28th 09:45- 11:30- 22:35-
29th 00:18- 10:35-

Source: https://www.jarl.org/Japanese/3_Fuji/fuji3-202107.htm

The August schedule for FO-99 is available at https://www.jamsat.or.jp/?p=1580

[ANS thanks JAMSAT and Hideo Kambayashi, JH3XCU, for the above information]

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towards Keeping Amateur Radio in Space
https://www.zazzle.com/amsat_gear

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More Slow-Scan TV Transmissions from RS0ISS Scheduled

Russian cosmonauts on board the International Space Station (ISS) will transmit slow-scan television (SSTV) images from the station Friday and Saturday, August 6 - 7. They will use SSTV mode PD-120 on 145.800 MHz FM.

The transmissions are part of the Moscow Aviation Institute SSTV experiment (MAI-75) and will be sent via RS0ISS, the ham station in the Russian Zvezda (Service) module using a Kenwood TM-D710 transceiver.

The announced schedule is August 6, 1050 - 1910 UTC; August 7, 0950 - 1555 UTC. Dates and times are subject to change. For stations in the ISS footprint, the RS0ISS signal should be easy to copy on a handheld transceiver and a quarter-wave whip. Use 5 kHz channel spacing, if available, to correct for Doppler shift, beginning 5 - 10 kHz above the receive frequency and tuning downward as the ISS approaches and move away once again.

Free ISS software is available to download. Pass predictions are available from AMSAT. Representative images from prior ISS SSTV events are available in the ARISS SSTV Gallery.

[ANS thanks ARISS and ARRL for the above information]

ARISS NEWS

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

Notre Dame Jogakuin Junior and Senior High School, Kyoto, Japan, direct via 8N3ND
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Thomas Pesquet KG5FYG
Contact is go for: Tue 2021-08-03 11:10:15 UTC 77 deg

Next mode change is expected to take place in late August 2021.

The latest information on the operation mode can be found at https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at https://www.ariss.org/contact-the-iss.html

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

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AMSAT, along with our ARISS partners, is developing an amateur radio package, including two-way communication capability, to be carried on-board Gateway in lunar orbit.

Support AMSAT's projects today at https://www.amsat.org/donate/

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Upcoming Satellite Operations

EA4NF: Linear & FM satellites August 1-14, 2021. IL27, IL28, IL38

ND0C & @kylee_ke0wpa and I will be “up north” for the next few days and will operate from EN36, 46, and 47. This is a “holiday-style” rove with no specific scheduled passes at this point. Most likely pop-up with short notice. FM and linears.

FN65/66: Indeed, VY2HF will be in FN65 from Thursday (7/22 – 7/29) evening this week until the following Thursday morning. As I’ll be in Fredericton proper, if there is interest I can position myself on the FN65/FN66 grid line with little trouble. Daytimes will be best, RS44 preferred, FM doable also. And on Thursday the 29th I will be driving into FN76/77 for several more days…

EN56, 57, 67: N8MR will be in EN57, EN67 and EN56 from Aug 7 thru Aug 14. Using an Icom 9700, Arrow antenna and SatPC32 to control uplink and downlink for Doppler.

[ANS thanks Paul Overn, KE0PBR, AMSAT rover page manager, for the above information]

Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

AMSAT Ambassador Clint Bradford, K6LCS, has online Zoom presentations scheduled in coming weeks with amateur groups in

New Jersey
Central New Hampshire
North Carolina
Conejo Valley CA
Sonoma County CA
Massachusetts
Antelope Valley CA

Contact Clint to arrange other events:
Clint Bradford K6LCS, AMSAT Ambassador; ARRL instructor
http://www.work-sat.com
Email: clintbradford AT mac DOT com
(909) 999-SATS (7287) - voicemail/message

[ANS thanks Paul Overn, KE0PBR, AMSAT Events page manager, for the above information]

Satellite Shorts From All Over

+ Congratulations to two new satellite operators who have earned the AMSAT Rover Award. Tor-Atle Sandal, LA9XGA, received award #58 and Randy Kohlwey, WI7P, received award #59. More information on the AMSAT Rover Award can be found at https://www.amsat.org/amsat-rover-award/ (Thanks to AMSAT Director of Contests and Awards Bruce Paige, KK5DO)

+ A solar wind stream hit Earth during the early hours of July 28th. First contact rattled Earth's magnetic field and sparked rare blue auroras over

Canada. Blue is a sign of bright moonlight hitting the top of the auroras. The process is called "resonant scattering." Details and photo at https://bit.ly/3zUnCLX (ANS thanks Spaceweather and Southgate ARC for the above information)

+ Boeing and NASA are getting ready to make another attempt at launching its Starliner astronaut taxi to the International Space Station. The uncrewed CST-100 Starliner space capsule is now scheduled to launch to the space station on Tuesday, Aug. 3, at 1720z, lifting off from Space Launch Complex 41 at Cape Canaveral Space Force Station in Florida on a United Launch Alliance Atlas V rocket. If that launch date holds, the capsule will arrive at the International Space Station on Wednesday, Aug. 4. Amateurs should note that the ISS amateur radio operations, ARISS, are shut down whenever there are docking operations or EVAs (spacewalks) taking place. (ANS thanks Space.com for the above information)

+ Another step towards space exploration from UK soil has been unlocked, with the passing of the spaceflight regulations, Transport Secretary Grant Shapps announced 29 July 2021. The legislation provides the framework to regulate the UK space industry and enable launches to take place from British soil for the very first time. (ANS thanks SpaceDaily for the above information)

+ NASA has selected SpaceX’s Falcon Heavy to launch its Europa Clipper mission to a potentially habitable moon of Jupiter, a choice that appeared inevitable once NASA was no longer required to use the Space Launch System. NASA announced July 23 that it awarded a launch services contract to SpaceX for the October 2024 launch of Europa Clipper on a Falcon Heavy rocket. The contract is valued at $178 million. (ANS thanks SpaceNews for the above information)

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. President's Club donations may be made at https://tinyurl.com/ANS-PresClub or through the AMSAT Store.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact info [at] amsat.org for additional student membership information.

Join AMSAT today at https://launch.amsat.org/

73 and remember to help Keep Amateur Radio in Space,

This week's ANS Editor, Mark Johns, K0JM
k0jm at amsat dot org